

REMARKS

Amendments

Claim 1 is amended to incorporate the recitations of claims 11 and 12, now cancelled. Claim 13 is amended to depend from claim 1, rather than cancelled claim 12. New claims 22-31 are directed to further aspects of the claimed invention and are supported throughout the disclosure. See, e.g., the original claims, page 18, lines 4-10 and page 19, lines 9-11.

Rejection under 35 USC §103(a) in view of Mukoyoshi et al., Urasaki et al., and Saito et al.

Claims 1,8, 11-16, 20, and 21 are rejected as allegedly being obvious in view of Mukoyoshi et al. (US 6,242,082) in combination with Urasaki et al. (US 6,403,198) and Saito et al. (US 6,197,381). This rejection is respectfully traversed.

Mukoyoshi et al. disclose that their gloss layer, which the rejection alleges is equivalent to the claimed high gloss cast coating, can be formed by a wet casting method in which a surface of the ink receiving layers or of the support paper sheet is coated with a coating liquid. The coating liquid layer is brought, while in the wetted condition, into contact under pressure with a mirror-finished casting surface of a heated casting drum. The coating liquid layer is then dried and the dried gloss layer is separated from the casting drum surface. Alternatively, the gloss layer can be formed by a re-wet casting method in which the dried coating layer is rewetted with an aqueous rewetting liquid, and then the rewetted coating layer is brought into contact with a mirror-finished casting surface of a heated casting drum and dried. See column 10, lines 15-42.

Mukoyoshi et al. do not disclose solidifying the binder in the gloss layer while the gloss layer is still in the wet state. Mukoyoshi et al. also do not disclose applying a solidifying solution to its gloss layer. Additionally, the disclosure of Mukoyoshi et al. is completely devoid of any reference to using boric acid and a borate in a solidifying solution. Similarly, Mukoyoshi et al. fail to suggest adding a solidifying solution that contains boric acid and a borate to the gloss layer while the latter is still in the wet state.

Urasaki et al. disclose an ink jet recording medium having an ink absorption layer that comprises a coating solution containing an alumina hydrate and at least two kinds of polyvinyl

alcohols differing in saponification degree. See, e.g., the abstract. Uraskai et al. do not disclose or suggest solidifying a binder in a coating layer while the coating layer is still in the wet state.

Urasaki et al. do refer to the use of either boric acid or a borate to gelatize polyvinyl alcohol (see column 2, lines 47-65), but do not provide any suggestion of using boric acid and a borate together. Compare applicants' disclosure at page 19, line 3-page 20, line 2.

Moreover, while Urasaki et al. do refer to the use of either boric acid or a borate, they actually suggest away from the use of such agents. As set forth at column 2, lines 52-65:

However, the gelling reaction of polyvinyl alcohol and boric acid or a borate is very fast, and change in viscosity of the coating solution with time cannot be avoided and, hence, coating stability becomes inferior. Moreover, the gelling product causes streaking and, thus, results in deterioration of surface quality.

Saito et al. disclose a recording sheet with a void layer having a dry thickness of 25 to 60 μm . The void layer is formed by coating a coating composition onto a surface of a support, the coating composition containing fine inorganic particles and a hydrophilic binder. See, e.g., the abstract.

At column 6, lines 26-52, Saito et al. disclose that to decrease cracking, the hydrophilic binder can be hardened through the use of a hardener. Saito et al. disclose a variety of hardeners such as diglycidyl ethyl ether, ethylene glycol diglycidyl ether, formaldehyde, glyoxal, 2,4-dichloro-4-hydroxy-1,3,5-s-triazine, bisvinylsulfonfyl methyl ether, boric acid and salts thereof. Boric acids and salts thereof are said to be preferred hardeners.

It is noted, however, that Saito et al. do not specifically describe a combination of boric acid and a borate. Example 1 does refer to use of a 5 percent aqueous boric acid solution. However, no combination of boric acid with a borate is disclosed or suggested.

At column 6, line 64-column 7, line 12, Saito et al. disclose how the hardeners can be applied. Thus, the hardener can be added into the coating composition that forms the void layer or can be added to a coating composition that form other layers adjacent the void layer. Alternatively, after a void layer forming hardener-free coating composition is coated and dried, a hardener can be supplied by coating a hardener-containing coating composition onto the resultant, dried void layer.

The methods described by Saito et al. are direct methods or re-wetting methods. Saito et al. do not disclose or suggest a solidifying method wherein the layer is solidified while wet. See, for example, page 17, line 27-page 18, line 12 of applicants' specification.

Thus, contrary to the assertion in the rejection, none of the references teaches or suggests hardening the coating layer by the solidifying method as recited in applicants' claim 1. Further, none of the references teaches or suggests using a solidifying solution containing a combination of boric acid and a borate in a solidifying method as recited in applicants' claim 21. In fact, Urasaki et al. suggest away from using boric acid or a borate to solidify a polyvinyl alcohol composition.

In view of the above remarks, it is respectfully that the disclosure of Mukoyoshi et al., taken alone or in combination with that of Urasaki et al. and/or Saito et al., fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC §103(a) in view of Mukoyoshi et al., Urasaki et al., Saito et al. and Ichioka et al.

Claim 3 is rejected as allegedly being obvious in view of Mukoyoshi et al. (US 6,242,082) in combination with Urasaki et al. (US 6,403,198), Saito et al. (US 6,197,381) and Ichioka et al. (US 6,177,188). This rejection is respectfully traversed.

As noted above, claim 1 is amended to incorporate the recitation of claims 11 and 12. Claims 11 and 12 are not rejected in view of this combination of prior art. Claim 3 depends from amended claim 1. Withdrawal of the rejection is respectfully requested.

In addition, the disclosure of Ichioka et al. does not overcome the deficiencies discussed above with respect to the combined disclosures of Mukoyoshi et al., Urasaki et al., and Saito et al. For example, Ichioka et al. do not disclose solidifying a coating layer while the coating layer is in the wet state.

In view of the above remarks, it is respectfully that the disclosure of Mukoyoshi et al., taken alone or in combination with that of Urasaki et al., Saito et al., and/or Ichioka et al., fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC §103(a) in view of Mukoyoshi et al., Urasaki et al., Saito et al. and Yasuda et al.

Claims 4, 9, 10, and 17-19 are rejected as allegedly being obvious in view of Mukoyoshi et al. (US 6,242,082) in combination Urasaki et al. (US 6,403,198), Saito et al. (US 6,197,381) and Yasuda et al. (US 5,213,873). This rejection is respectfully traversed.

As noted above, claim 1 is amended to incorporate the recitation of claims 11 and 12. Claims 11 and/or 12 are not rejected in view of this combination of prior art. Claims 4, 9, 10, and 17-19 depend from amended claim 1. Withdrawal of the rejection is respectfully requested.

In addition, the disclosure of Yasuda et al. does not overcome the deficiencies discussed above with respect to the combined disclosures of Mukoyoshi et al., Urasaki et al., and Saito et al. For example, Yasuda et al. do not disclose solidifying a coating layer while the coating layer is in the wet state.

In view of the above remarks, it is respectfully that the disclosure of Mukoyoshi et al., taken alone or in combination with that of Urasaki et al., Saito et al., and/or Yasuda et al., fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC §103(a) in view of Mukoyoshi et al., Urasaki et al., Saito et al. and Barcock et al.

Claim 5 is rejected as allegedly being obvious in view of Mukoyoshi et al. (US 6,242,082) in combination Urasaki et al. (US 6,403,198), Saito et al. (US 6,197,381) and Barcock et al. (US 6,502,935). This rejection is respectfully traversed.

As noted above, claim 1 is amended to incorporate the recitation of claims 11 and 12. Claims 11 and 12 are not rejected in view of this combination of prior art. Claim 5 depends from amended claim 1. Withdrawal of the rejection is respectfully requested.

In addition, the disclosure of Barcock et al. does not overcome the deficiencies discussed

above with respect to the combined disclosures of Mukoyoshi et al., Urasaki et al., and Saito et al. For example, Barcock et al. do not disclose solidifying a coating layer while the coating layer is in the wet state.

In view of the above remarks, it is respectfully that the disclosure of Mukoyoshi et al., taken alone or in combination with that of Urasaki et al., Saito et al., and/or Barcock et al., fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC §103(a) in view of Mukoyoshi et al., Urasaki et al., Saito et al. and Sakaki et al.

Claim 6 is rejected as allegedly being obvious in view of Mukoyoshi et al. (US 6,242,082) in combination Urasaki et al. (US 6,403,198), Saito et al. (US 6,197,381) and Sakaki et al. (US 5,246,774). This rejection is respectfully traversed.

As noted above, claim 1 is amended to incorporate the recitation of claims 11 and 12. Claims 11 and 12 are not rejected in view of this combination of prior art. Claim 6 depends from amended claim 1. Withdrawal of the rejection is respectfully requested.

In addition, the disclosure of Sakaki et al. does not overcome the deficiencies discussed above with respect to the combined disclosures of Mukoyoshi et al., Urasaki et al., and Saito et al. For example, Sakaki et al. do not disclose solidifying a coating layer while the coating layer is in the wet state.

In view of the above remarks, it is respectfully that the disclosure of Mukoyoshi et al., taken alone or in combination with that of Urasaki et al., Saito et al., and/or Sakaki et al., fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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